

# **The State of Behavioral Economics in Undergraduate Microeconomics Teaching: A Review of Textbooks**

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Draft 25 June 25

To be presented at the Economic Science Association – ESA World Meeting in Rome 28 June -1 July 2007 (Parallel Session 2 - Stream 8 29 June 2007, from 14.30 to 14.40)

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## **Abstract**

The purpose of this paper is to analyze to what degree the undergraduate teaching of microeconomics incorporates the key contributions of behavioral economics.

The analysis is based on the textbooks adopted for teaching undergraduate introductory courses in principles of economics and microeconomics during the academic year 2006-2007 in the 30 world's top economics departments.

The textbooks are analyzed to see whether they present and discuss key concepts in behavioral economics, which following Mullainathan and Thaler (2001), are organized into three groups under the headings of bounded rationality, bounded selfishness, and bounded will-power.

The analysis suggests that behavioral economics is still relatively under represented in microeconomics introductory textbooks compared to its importance in research. Seven of the 14 textbooks examined so far, do not mention behavioral economics at all. Among the remaining seven textbooks, only three dedicate more than 1 % of total pages to behavioral economics related concepts: Mankiw (2006), Varian (2006), and Frank (2006) respectively with 1.08%, 2.1%, and 7.4% of total pages dedicated to behavioral economics. In the textbooks most of the discussion of behavioral economics focuses on bounded rationality while bounded selfishness and bounded will-power are much less discussed.

The paper concludes with some reflections about the possible causes of the under representation of behavioral economics in microeconomics introductory textbooks and on the reasons why more space should be dedicated to it in teaching introductory microeconomics

***Author Keywords:** behavioral economics, economics education and teaching of economics, experimental economics, microeconomics, psychology, textbooks.*

**JEL classification codes:** A22, B49, B59, D01

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## 1 Introduction

In response to a reader of his economics blog asking what had been the most important developments in economics in the last 10-15 years, Greg Mankiw, professor of economics at Harvard, as well as author of one of the most popular economics principles textbooks, writes:

*Without doubt, the next hot research topic after new growth theory, at least here in Cambridge, has been behavioral economics, which integrates economics and psychology. [...] Research on behavioral economics has promise for providing new perspective on public policy.*

Greg Mankiw, Behavioral Economics, Greg Mankiw's blog, 28 June 2006.

Mankiw is far from alone in his evaluation of the importance of behavioral economics. The significance of behavioral economics is also reflected by the prestigious awards won by behavioral economists in the last years. In 2001 the John Bates Clark bronze medal, the highest recognition given to American economists under the age of 40, was awarded to Matthew Rabin for his work in behavioral economics. A year later, Daniel Kahneman, one of the fathers of behavioral economics, received the Noble prize in economics for his contribution in integrating insights from psychological research into economics. The same year the Nobel prize in economics was also awarded to Vernon Smith, the father of experimental economics, a sub discipline of economics which shares with behavioral economics an important methodological tool, namely laboratory experiments.

Mankiw's view of the importance of behavioral economics is also supported by the number of peer reviewed articles in this subfield of economics. A quick search for behavioral / behavioral economics in Econlit done February 12 2007 gave 381 hits of which more than half were published in the last decade [2006 (24), 2005 (34), 2004 (49), 2003 (24), 2002 (9), 2001 (24), 2000 (14), 1999 (8), 1998 (10), 1997 (4)] . On the same day there were several articles on behavioral economics forthcoming on the American Economics Review, one of the highest ranked economic journal.<sup>2</sup>

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<sup>2</sup> Butler, David and Loomes, Graham: Imprecision as an Account of the Preference Reversal Phenomenon ,Cappelen, Alexander W.; Hole, Astri D.; Sørensen, Erik Ø. and Tungodden, Bertil: The Pluralism of Fairness Ideals: An Experimental Approach , Casari, Marco; Ham, John C. and Kagel, John H.: Selection Bias, Demographic Effects and Ability Effects in Common Value Auction Experiments , Charness, Gary; Rigotti, Luca and Rustichini, Aldo: Individual Behavior and Group Membership, Cohen,

Journals such as *Science* and *Nature*, which are prominent sources of information for scientific journalists and science divulgators, have featured several articles on behavioral economics. Tversky's and Kahneman's 1974 seminal article was published in *Science*. More recently, behavioral economics was featured in the articles by Bernhard et al (2006), Camerer (2003), Fehr (2002), Fehr & Gächter (2003), Fehr & Rockenbach (2003), Kosfeld et al (2005), and Lehrer (2006).

Behavioral economics has also been written about in magazines and daily newspapers such as the *Economist*, the *New York Times*, the *Financial Times*, etc. (e.g. Harford 2007, Olin 2003, *Behaviourist at the gate* 2003, *Rethinking thinking* 1999).

Considering all the above in research, one might expect that behavioral economics would be featured at some level in undergraduate microeconomics textbooks. In this paper, I examine whether this is the case, that is, whether the increased recognition of behavioral economics in academia and the media alike has percolated down into undergraduate microeconomics textbooks. Following Camerer and Loewenstein (2004), I define behavioral economics as the branch of economics that is concerned with increasing the realism of the psychological foundations of economic analysis so as to enhance its explanatory and predictive power. Behavioral economics overlaps to some degree with experimental economics, the branch of economics which relies on laboratory experiments to test economic theories. This is because laboratory experiments are an important methodological tool in behavioral economics. Because of these overlaps, this work also examines the inclusion of experimental economics into undergraduate microeconomics textbooks.

## **2 Data**

The main data for the analysis are given by the textbooks adopted for teaching undergraduate introductory courses in microeconomics during the academic year 2006-2007 in the 30 world's top

economics departments as identified by Roessler 2004 following the methodology used in Kalaitzidakis et al (2003)<sup>3</sup> (see appendix 2).

Top departments are at the cutting edge in research, which may make them also more likely be at the cutting edge for including such research into teaching. The choice of textbooks in these departments may thus pick up the more innovative trends in teaching.

As access to course information and syllabi is often restricted to students of the institution offering the course, at present I could gather data on the textbooks adopted and the course content of 21 courses covering 19 of the 30 top economics departments, including 14 of the top 20 departments. The data that could be collected is presented in detail appendix 3. Unfortunately, lack of access to most courses syllabi limited the possibility to control whether individual lecturers may have complemented a weak treatment of behavioral economics in their chosen textbook with other materials.

Economics top departments' course syllabi lead to the identification of ten textbooks. Among these, Mankiw's textbook Principles of microeconomics, 4<sup>th</sup> edition, emerged as the market leader, adopted in 9 of the 19 universities surveyed. Table 1 shows in how many courses the other textbooks were adopted. It is important to underline that these data give only a very rough feeling for which books are favored by top economics departments. As access to course information was difficult, the data is at best patchy and partial. Thus, to increase the scope of the analysis and make sure no important textbooks were excluded, I complemented this list with a selection of undergraduate microeconomics' textbooks.

### **3 Methods of analysis**

Having selected a corpus of microeconomics textbooks, I proceeded to the analysis of how they incorporated behavioral economics by: 1) analyzing the table of contents; 2) searching for behavioral/experimental economics related terms in the analytic index; 3) analyzing the text related to behavioral/experimental economics identified through 1 and 2.

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<sup>3</sup> An alternative, European only ranking can be found at <http://www.core.ucl.ac.be/econometrics/Bauwens/Rankings/EuropeanRanking.pdf>

The search of analytical indexes was done by first constructing a list of key terms in behavioral from the review articles by Camerer and Loewenstein (2007), Mullainathan and Thaler (2001), Rabin (1998 & 2002) as well as from the experimental economics textbook by Kagel and Roth (1995).

Two very rough quantitative indexes are used to rank the textbooks: the number of pages dedicated to behavioral economics as well as their percentage with respect to the pages in the textbook, which deal with microeconomics.<sup>4</sup>

Following Mullainathan and Thaler (2001), the behavioral economics-related topics presented in the textbooks are grouped thematically along the subdivision of bounded rationality, bounded selfishness, and bounded willpower, as follows:

*Bounded rationality:* most of the key terms in this group relate departures from the assumption of rational formation of beliefs, such as availability bias, availability heuristics, biased estimates, bounded rationality, cognitive limitations, emotions, framing (effect), hedonic framing, judgmental heuristics, mental accounts; misprediction, misrepresentation, and misremembering of one's own utility; overconfidence, preference reversal, projection bias, representativeness heuristics, satisficing, sunk costs and cognitive limitations. Other terms relate to the idea of reference-based utility functions such as endowment effect, loss aversion, prospect theory, prospect theory value function, reference-dependent preferences.

*Bounded selfishness:* the terms in this group relate to the degree in which individual behavior may be other-regarding. The terms are: altruism, co-operation (in public good and prisoners' dilemma games), envy, fair-minded utility, fair-mindedness, inequality aversion, non-self-interested behavior, process-regarding preferences, reciprocal altruism, reciprocal preferences, reciprocity, retaliation, social preferences, strong reciprocity, taste for fairness, taste for retaliation, and ultimatum games.

*Bounded willpower:* related to bounded will-power are concepts such as hyperbolic discounting, present-biased preferences, procrastination, and time inconsistency.

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<sup>4</sup> If the textbook dealt with both macro- and microeconomics, only the pages dedicated to the latter were taken into account.

Finally, I also looked for references to experimental economics and neuroeconomics as laboratory experiments and neuroimaging are methodological tools currently used in behavioral economics. I used the key words: experimental markets, experimental methods/approach, field experiments, neuroeconomics.

#### **4 Behavioral economics in introductory microeconomics textbooks: results**

Table 1 summarizes the preliminary results of the analysis.<sup>5</sup> The textbooks are ordered according to how great a percentage of pages over total pages is devoted to behavioral economics. It is also reported if the textbooks discuss the thematic areas of bounded rationality, bounded selfishness, and bounded will-power, if they discuss experimental or neuroeconomics, and in how many courses by top economic departments they were adopted. More detailed information on the individual textbooks is provided in tables 2 to 10..

From table 1, it is possible to distinguish three types of textbooks. Of the first type are textbooks, which make no references to behavioral nor to experimental economics. Among the books reviewed these are: Case-Fair (2007), Cowell (2005), McConnell and Brue (2005), and O'Sullivan, Sheffrin & Perez (2007). Of the second are textbooks, which make no reference to behavioral economics at all but provide some introduction to experimental economics, usually presented as a tool that produced empirical evidence in confirmation of neoclassical economic theory. To this category belonged MacEachern (2007), Parkin (2005), and Taylor (2007). The third and last category included textbooks, which discuss to varying degree behavioral economics,. These are Besanko and Braeutigam (2005), Frank (2006), Himmelweit et al (2001), Krugman and Wells (2006), Mankiw and Taylor (2006), Stiglitz and Walsh (2006), and Varian (2007). Among this last group, the vast majority appears to adopt a 'Change As Little as Possible [from the standard presentation]' or CLAP strategy (Colander 2004, 360) in that they add one or two boxes or a separate chapter to present behavioral economics but make no revisions to the standard presentation. These books thus make it quite easy for the lecturer to simply skip the added chapter/box. The major exception to this strategy is represented by Frank (2006) which attempts an integrations of behavioral economics themes throughout the book.

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<sup>5</sup> Results are preliminary in that some microeconomics textbooks are still to be reviewed.

As far as the thematic categories are concerned, bounded rationality is presented in 6 of the 7 books, which deal in some form with behavioral economics. This is not surprising, considering that research related to bounded rationality was the one that led to the awarding to Kahneman of the Nobel prize in economics. Bounded selfishness comes second with five books dealing with it to some degree, usually however within the context of the ultimatum game. Once again Frank (2006) is an exception in that it dedicates 28 pages to issues related to altruism. Least discussed in all textbooks appears to be bounded will-power discussed in four textbooks.

**Table 1**

Textbook	# pages	% of total pages	bounded rationality	bounded selfishness	bounded will-power	experimental economics	course adoptions
Frank (2006)	52	7,40 %	yes	yes	yes	no	1
Varian (2006)	15	2,10 %	yes	yes(?)	yes	no	2
Taylor (2007)	7	1,36 %	no	no	no	yes	1
Mankiw and Taylor (2006)	5	1,08 %	yes	yes	yes	yes (458)	9
Stiglitz and Walsh (2006)	3	0,61 %	yes	no	yes	yes	
MacEachern (2007)	1	0,26 %	no	no	no	yes	
Parkin (2005)	1	0,24 %	no	no	no	yes	2
Krugman and Wells (2006)	1	0,19 %	yes	no	no	no	2
Besanko and Braeutigam (2005)	0,5	0,07 %	no	yes	no	no	
Case-Fair (2007)	0	0	no	no	no	no	
Cowell (2005)	0	0	no	no	no	no	1
McConnel and Brue (2005)	0	0	no	no	no	no	
O'Sullivan, Sheffrin & Perez (2007)	0	0	no	no	no	no	
Himmelweit, Simonetti and Trigg (2001)			yes	yes	no	yes	
Frank and Bernanke (2006)	to be reviewed						2
Pindyck and Rubenfield (2006)	to be reviewed						1
Gateman (2006)	to be reviewed						1
Colander (2005)	to be reviewed						N = 22

#### 4.1 Briefly acknowledging the existence of behavioral economics

Among the 15 textbooks reviewed, seven discussed behavioral economics with varying degree of depth. For instance, Krugman and Wells (2006, 244) [see also Krugman, Wells, and Graddy (2007, 251) – European edition] dedicates to behavioral economics one box, in which they discuss cases in which the rational consumer assumption does not seem to hold. In the American edition

(2006), the box opens with a discussion of employer-administered retirement plans and saving behavior and then moves to behavioral economics characterizing it as follows: ‘*Studies of saving behavior are one examples of a growing field known as “behavioral economics”. Behavioral economists question the whole concept of the rational consumer. Their research focuses on situations in which people don’t seem to be rational – that is, when they behave in ways that can’t exactly be explained by utility maximization.*’ Simon’s concept of satisficing behavior is briefly introduced and Kahneman and Tversky are mentioned as the developer of a theory ‘*on how people make choices in the face of uncertainty*’. The box ends with the statement: “*But it’s hard to find a behavioral economist who thinks that the insights of this field should replace the analysis of utility maximization. The theory of the rational consumer remains the main way in which economists analyze consumer behavior.*” (Krugman and Wells 2006, 244.) The box in Krugman, Wells, and Graddy (2007, 251) also ends with the same statements about behavioral economics even though behavioral economics is introduced with reference to studies on decision making under uncertainty and with a presentation of the anchoring effect. Thus, only the bounded rationality is presented in the book, albeit very briefly.

**Table 2 Krugman and Wells (2006) and Krugman, Wells, and Graddy (2007)**

Analytical index analysis	Krugman and Wells (2006)	Krugman, Wells, Graddy (2007)
anchoring effect	-	<b>251</b> (Ch. 10 The rational consumer – for inquiring minds: but are consumers really rational? –box)
behavioral economists	244	<b>251</b>
bounded rationality	244	<b>251</b>
Kahneman, Daniel	244	<b>251</b>
Simon, Herbert	244	<b>251</b>
social norms (and labor supply)	301	<b>310</b> (ch. 12 Factors markets and the distribution of income –shifts of the labor supply curve)
Tversky Amos	244	<b>251</b>

Similarly, Stiglitz and Walsh (2006, 119-121, fourth edition) introduce behavioral economics in the chapter dedicated to the consumption decision in a section called ‘*Looking Beyond the Basic Model*’, in which they present the concepts of endowment effect, loss aversion, and status quo bias. They suggest that these findings do not require to change the basic ideas on how consumers respond to changes in prices. However, they continue: “*The findings from behavioral economics do suggest, however, that preferences can depend on what individuals view as the status quo, and*

*that consumers may display a greater reluctance to change than the basic economics model would predict.” (Stiglitz and Walsh 2006, 121).*

Stiglitz and Walsh (2006) also refer to behavioral economics in the chapter on capital markets, which incorporates a discussion of the insights from behavioral economics on why people undersave. They discuss problems of self-control in postponing consumption, forced savings and the importance of the choice of the default option in saving plans (Stiglitz and Walsh 2006, 202-203).

Experimental economics is also mentioned (Stiglitz and Walsh 2006, 321) in connection with experiments on how individuals cooperate in situations like the prisoner’s dilemma.

**Table 3 Stiglitz and Walsh (2006)**

Analytical index analysis	Page number /Name of chapter – Name of section - context
behavioral economics	119-121 (chapter 5 The consumption decision –Looking beyond the basic model)
endowment effect	120 (chapter 5 The consumption decision)
experimental economics	321(chapter 14 Strategic behavior –tit for tat)

#### **4.2 Offering an almost all round but brief introduction to behavioral economics: Mankiw and Taylor (2006), and Varian (2006)**

A more prominent role to behavioral economics is given in Mankiw’s and Taylor’s (2006) Economics<sup>6</sup> as well as in Varian (2006, 549-563, chapter 30) Intermediate Microeconomics, seventh edition. Mankiw and Taylor (2006,455-460, see also Mankiw 2004, 479-493) include a chapter, called ‘Frontiers in Microeconomics’ with a five-page section on behavioral economics. Varian (2006, 549-563, chapter 30) includes in the seventh edition an entire chapter dedicated to behavioral economics.<sup>7</sup>

<sup>6</sup> Mankiw and Taylor(2006) is the European edition to Mankiw Principles of Economics 4<sup>th</sup> edition.

<sup>7</sup> This chapter together with one on game applications substitute the chapter on Law and Economics in the fifth edition.

**Table 4 Mankiw and Taylor (2006)**

Analytical index analysis	Mankiw and Taylor (2006)
addiction	136
availability bias	455
behavioral economics	455, deviations from rationality 455.6, and fairness 458, inconsistency over time 459
cooperation	and prisoners' dilemma 335-6
economic well-being	477-8
fairness	458
happiness	479-480
prisoners' dilemma	329-336,819
rationality	
satisficing	455
self-control	459
time inconsistency	459
ultimatum game	458

As it can be seen from table 4 and 5, both textbooks discuss bounded rationality and bounded will-power. Bounded selfishness is discussed in less detail, touching only very briefly upon the concepts of fairness and social norms within the context of the ultimatum game without, however, any discussion of strong reciprocity or altruism.

**Table 5 Varian (2006)**

Analytical index analysis	Varian, Hal R. (2006) seventh edition
anchoring effect	550 (ch. 30 Behavioral Economics, 30.1 Framing Effects in Consumer Choice)
behavioral economics	548 (ch. 30 Behavioral Economics)
behavioral game theory	559(ch. 30 Behavioral Economics, 30.4 Strategic Interaction and Social Norms)
choice behavior	549(ch. 30 Behavioral Economics 30.1 Framing Effects in Consumer Choice)
fairness norms	550 (ch. 30 Behavioral Economics 30.1 Framing Effects in Consumer Choice)
framing effect, negative & positive framing	550 (ch. 30 Behavioral Economics 30.1 Framing Effects in Consumer Choice)
hyperbolic discounting	557 (ch. 30 Behavioral Economics 30.3. Time)
loss averse	555 (ch. 30 Behavioral Economics 30.2 Uncertainty)
punishment games	560 (ch. 30 Behavioral Economics 30.4 Strategic Interaction and Social Norms)
self-control	557 (ch. 30 Behavioral Economics 30.3. Time)
self-serving attribution bias	558 (ch. 30 Behavioral Economics 30.3. Time)
social norms	546 (ch. 29 Game Applications – 29.7. Bargaining - The Ultimatum Game)
time inconsistency	557 (ch. 30 Behavioral Economics 30.3. Time)
ultimatum game	559 (ch. 30 Behavioral Economics 30.4 Strategic Interaction and Social Norms)

### 3.3 Behavioral economics in depth: Frank (2006)

Frank (2006) in *Microeconomics and Behavior*, sixth edition, concentrates the treatment of behavioral economics in two chapters: chapter 7, ‘*Explaining Tastes: The Importance of Altruism and Other Nonegoistic Behavior*’ (Frank 2006, 231-258), and chapter 8: ‘*Cognitive Limitations and Consumer Behavior*’ (Frank 2006, 259-283). As the titles suggest, the former deals with bounded selfishness and the latter with bounded rationality and will-power. Issues related to behavioral economics also show up in other parts of the textbook as well (see table 6) suggesting an effort to integrate the contributions of behavioral economics throughout the text. Moreover, the number of pages dedicated to behavioral economics is the largest among the textbooks reviewed: 52/678, that is 7.4% of total, versus the 2,1% of the second runner-up, Varian (2006).

**Table 6 Frank (2006)**

Analytical index analysis	Frank 2006 Microeconomics and Behavior
addiction	
altruism	and cheating problem 241-248,
	indifference curves 233-234,
	optimal income transfer 233-234,
	in present-aim standard of rationality 233-235,
	utility maximizing 234-235.
anchoring and adjustment bias	275-276
asymmetric value function (prospect theory?)	262-264
availability bias	271-272
bargaining problems and nonegoistic behavior	249
biased estimates	275
biological explanations of preferences	235-236
bounded rationality	260-261
cardinal utility	96-98
cheating problem	241-248
choice under uncertainty	269-271
cognitive limitations	259-280
conspicuous consumption	196-198
cooperators	242-248
deterrence problem and nonegoistic behavior	249
difficulty of deciding	276-278
fairness	251-255
fairness and efficiency	666-668
hedonic framing	265-269
judgmental heuristics	271-276
Kahneman, Daniel	228,261,262-263,265,268,269-272,274-275
Loewenstein, George	180-181,514n
loss aversion	262-263
memory mechanics of	271-272
mental accounts	261
morality	255
negative time preference (current versus future consumption)	176, 180-181
network economies	411-412
nonegoistic behavior	altruistic preferences 233-235
	bargaining problem 249
	deterrence problem 249
	central assumption 247
	fairness concerns 251-254
	material gain 255
	ultimatum bargaining game 251-255
	voter turnout 251
out-of-pocket costs vs. opportunity cost	265
payoffs in cheating problems	242-248
positional externalities	630-634
positional goods	198
preferences	altruistic 233-235

	commitment devices 241-249
present aim standard of rationality	and altruistic preferences 233-235, and nonegoistic motives 235-239
prisoners' dilemma	454-455, 457-462
psychophysics of perception	276
representativeness bias	272-275
satisficers	262
self-control (pitfalls)	279-280
Simon, Herbert	244
sunk costs	& cognitive limitations 264-265 failing to ignore 10-12,260
Thaler Richard	6,11n,85n,264-265,266,268,276,514n
time inconsistency	
Tversky Amos	228,261,262-263,265,268,269-272,274-275,277-278
ultimatum game	251-255
value function	asymmetric 262-264, 265,270-271 hedonic framing 265-269

#### 4.4 Focusing on experimental economics

Finally, a group of authors, namely Besanko and Braeutigam (2005), McEachern (2007), Parkin (2005), and Taylor (2007), chose to discuss experimental economics and neuroeconomics but not behavioral economics. In these books, experimental economics is generally presented as a method whose result support economics' neoclassical theory. No reference is made to the more unsettling results from behavioral economics.

Taylor (2007, 29) in the section called 'The Lack of Controlled Experiments in Economics' presents experimental economics as follows: *'In recent years, economists have adapted some methods of experimental science and have begun to conduct economics experiments in laboratory settings that are similar to the real world. The experiments can be repeated, and various effects can be controlled for. Experimental economics is a growing area of economics. The findings of experimental economics have affected economists' understanding of how the economy works...But because it is difficult to replicate real-world settings exactly in such experiments, they have not been applied as widely as the clinical or laboratory experiments in other science.'* Experimental economics is mentioned again on pages 174-176 to argue that the competitive equilibrium model well predicts market outcomes with reference to Vernon Smith's and Charles Plott's experiments and on page 418 to illustrate how experiments can be used to try out auction formats that have not

been taken place before. Neuroeconomics is also introduced in a box by reproducing an article of the Economists (Mind games , 13 January 2005, pp. 124-125).

**Table 7 Taylor (2007) fifth edition**

Analytical index analysis	Page number /Name of chapter – Name of section - context
behavioral economics	<b>124-125</b> (ch. 5 the Demand Curve and the Behavior of Consumers – Box: Mind Games)
controlled experiments	<b>28</b> (ch.2 Observing and Explaining the Economy – Correlations Between Economic Variables – The Lack of Controlled Experiments in Economics)
experimental economics	<b>28-29</b> (ch.2 Observing and Explaining the Economy – Correlations Between Economic Variables – The Lack of Controlled Experiments in Economics)
experimental markets and double auction markets	<b>174-176</b> (ch. 7 The Interaction of People in Markets –Predictions of the competitive equilibrium)
neuroeconomics	<b>124-125</b> (ch. 5 the Demand Curve and the Behavior of Consumers – Box: Mind Games)
Plott ,Charles	418 (Ch. 15 Public Goods, Externalities, and Government Behavior – Economics in Action: Advising the Government to Auction Off the Spectrum - box)
Smith, Vernon	<b>176</b> (ch. 7 The Interaction of People in Markets – Predictions of the competitive equilibrium)

McEachern (2007) too focuses solely on experimental economics, although with less detail, dedicating to it a bit over one page out of 388 (2007, 168-169). He describes some experiments by Vernon Smith within the discussion of perfect competition and argues that ‘*experimental economics is now a hot area for research and industry*’ and that ‘*Experiments have provided empirical support for economics theory and have yielded insights about how market rules affect market outcomes*’ (McEachern 2007, 169). Also brief is Parkin (2005).

**Table 8 Mc Eachern (2007)**

Analytical index analysis	McEachern 2007
bounded rationality	269 (2 lines)
experimental economics	168-169

**Table 9 Parkin (2005) sixth edition**

Analytical index analysis	Parkin 2005 sixth edition
experimental methods/approach	15

**Table 10 Besanko and Braeutigam (2005)**

Analytical index analysis	Besanko and Braeutigam (2005) second edition
altruism	126 (ch. 4 Consumer choice, 4.4 revealed preferences - box)

It could be argued that also Besanko and Braeutigam (2005, 126), second edition, focus on experimental economics as they include a box discussing how altruistic behavior may be consistent with utility maximization and mention the experimental method as a tool to study altruistic behavior. The authors conclude: “*While not everyone is altruistic – the world does contain some selfish maximizers – one should not assume that altruistic behavior is inconsistent with utility maximization. The impulse to be generous could go hand-in-hand with the desire to maximize one’s own utility*”.

#### 4.5 Institutional and behavioral economics?

The textbook by Himmelweit, Simonetti and Trigg (2001) was also included in the analysis as, to the best of my knowledge, it is the only introductory microeconomics textbook, which along with neoclassical economic theory also presents in detail the institutional perspectives. Considering that behavioral economics results have important implications for institutional design,<sup>8</sup> one may wonder if and how behavioral economics would be included in such an institutional economics focused textbook.

Himmelweit, Simonetti and Trigg (2001) dedicate little space to bounded rationality nor do they discuss any of the concepts central to bounded rationality such as availability bias, framing, judgmental heuristics, mental accounts, misprediction, misrepresentation, etc. Bounded will-power is also not discussed, while the discussion of bounded selfishness is restricted to the analysis of family relations as shown in table 11. Experimental economics is presented in the context of texts for consistency of revealed preferences.

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<sup>8</sup> For instance, it may help justify forms of libertarian paternalism (Thaler & Sunstein 2003).

**Table 11 Himmelweit, Simonetti and Trigg (2001)**

Analytical index analysis	
altruism	<b>149</b> (ch. 6 Decision Making in Households)
	and family life <b>180, 186-9</b> (ch. 6 Decision Making in Households)
	and market trading <b>546-9</b> (ch. 19 Social Markets)
	altruistic heads of household <b>147-53,165,169-71</b> ,(ch. 6 Decision Making in Households)
bandwagon effect	<b>195-8</b> (ch. 7 Caring for Children)
bounded rationality	<b>219-20</b> (ch. 8 Modeling the Firm – 5.1 Firms’ objectives: maximization vs. satisficing)
changing norms	<b>193-9</b> (ch. 7 Caring for Children, Changing Norms)
changing preferences	<b>193-9</b> (ch. 7 Caring for Children, Changing Norms)
conspicuous consumption	<b>61-72,80-2</b> , problems <b>70-2</b> (ch 3 Consumer Dependency)
consumption evolution	<b>60-1</b> (ch 3 Consumer Dependency)
co-operative conflict model of the household	<b>164-166</b> (ch. 6 Decision Making in Households)
endogenous preferences	<b>187</b> (ch. 7 Caring for Children)
experimental economics	<b>52-4</b> (ch 2 Consumer Sovereignty)
norms	changing <b>193-9</b> , and cycles <b>195</b> , (ch. 7 Caring for Children)
	gender issues <b>199</b> , groups and <b>198-9</b> (ch. 7 Caring for Children)
	parenting <b>192</b> , societies <b>191-3</b> (ch. 7 Caring for Children)
rationality	<b>136-9</b> (ch 5 the Household in the Economy)
social norms	<b>546-52</b> (ch 19 Social Markets), <b>191-3</b> (ch 7 Caring for Children)

## **5 Behavioral economics in undergraduate microeconomics textbooks: too little, too much, or just right?**

The data in section 4 suggest that behavioral economics is somewhat underrepresented in microeconomics textbooks relative to its importance in research. In this section, I discuss some possible reason of why this may be the case.<sup>9</sup>

### **5.1 Too much material to cover – Behavioral economics non core material?**

One important consideration when planning an introductory course is to identify the core topics. This is a particularly challenging task in introductory microeconomics courses. Lecturers often feel that courses already include such a wide array of topics that adding contributions from behavioral economics on top of them would make the courses unmanageable. This kind of objections emerges for instance in the discussion following the post Behavioral microeconomics

<sup>9</sup> For arguments in favor of embracing behavioral economics in research and against the view of behavioral economics as a fad the reader can see Rabin (2002).

blog, 15 March 2007 on Marginal Revolution (Cowen 2007) on the teaching of behavioral economics as part of undergraduate microeconomics. Here is a comment on the post: “*In intro micro, none of the three of us spends any time on behavioral economics, for the usual reason- there's not enough time to do everything.*” And another “*It [behavioral economics] is also ignored at Columbia, understandably, because of the wide array of topics that are crammed into the 300-person Principles class already. The text I used in 2005 was Bernanke's, and there's a short section on Kahneman and Tversky in the beginning to emphasize how few people think like economists (if i remember correctly). Less forgivably, Intermediate Micro doesn't touch the subject either. I'm a junior and thus far I've had to take psych classes for even an overview of behavioral economics topics.*”

The ‘too much material to cover’ -argument deserves careful consideration. A cursory look at any major undergraduate microeconomics textbook will most likely convince any reader of the wide array of topics included in such textbooks. Thus it is important to ask whether the contributions of behavioral economics to microeconomic analysis belong to the core of microeconomics as well as whether there is anything less important that is taught today that could be substituted for with behavioral economics or taught in less detail.

As far as the issue of behavioral economics belonging or not to the core of microeconomic concepts and theories, one could sight as an example present-biased preferences who, according to Rabin (2002, 671) are likely to increase the explanatory power of economic theory in areas such as ‘*savings behavior, credit-card debt, the nature of marketing and advertising consumer goods, procrastination at work and at home, organizational design (to fight procrastination), the self-help industry, welfare participation rates, job search by the unemployed, and why people live poor and die prematurely from smoking, alcoholism, overweight, gambling, illicit drug use, unsafe sex, and other risky activities.*’ I think it would be hard to argue that these issues are non-core.

Could some space be freed by reducing the treatment of other topics? The textbook authors are faced with tough choices. Varian (2006), for instance, chose to dedicate room to behavioral economics eliminating the treatment of law and economics in the earlier edition. Chatterji (2005) suggests throwing out the Slutsky decomposition and Pashigian and Self (2007) to reduce the space devoted to imperfectly competitive markets.

Whatever the choice of the topics to cover or eliminate or downsize, there is maybe some merit large textbooks, which offer a wide range of topics leaving to the lecturer the final word on what to discuss in class.

## **5.2. Too complicated at an introductory stage?**

Lecturer may be concerned that reference to behavioral economics in introductory microeconomics courses may confuse students, who are already struggling with understanding the main tenets of economics theory. Therefore they may opt for a KISS - Keep It Simple, Stupid - type of strategy (Colander 2004, 360) . In this direction goes one comment to the Marginal Revolution post: *“I skip it [behavioral economics], for two reasons. First, I find that otherwise I don't have time for oligopoly or other more important topics. And second, as interesting as behavioral economics is, I think it mostly confuses the students.”*

Frank (2006, ix) disagrees: *“It may seem natural to wonder whether discussing examples of irrational choices might confuse students who are struggling to master the details of the rational choice model. Ironically, however, my experience has been exactly to the contrary.”*

My suspicion is that both may be right, in that whether presenting behavioral economics may confuse students if it is done hastily, while it may deepen understanding if sufficient lecture time is dedicated to the topic. Sighting Frank (2006, viii-ix) again: *“...topics should be emphasized in proportion both to their importance and to the difficulty that students have in mastering them.”*

## **6 Conclusions**

The purpose of this paper was to analyze to what degree the undergraduate teaching of microeconomics incorporates the key contributions of behavioral economics by analyzing the textbooks adopted for teaching undergraduate introductory courses in principles of microeconomics during the academic year 2006-2007 in the 30 world's top economics departments.

The results suggest that behavioral economics is relatively underrepresented compared to its importance in research. Seven out of 14 textbooks make no reference at all to behavioral economics. Among the remaining seven textbooks, only three dedicate more than 1 % of total pages to behavioral economics related concepts: Mankiw (2006) 1.08%, Varian (2006) 2.1%, and Frank (2006) 7.4%.

This relative under representation of behavioral economics in textbooks is possibly due to a belief among lecturers that microeconomics introductory courses include already too much material to cover and that behavioral economics may be too complicated for beginners. It was argued in the paper that behavioral economics belong to core principles of microeconomics and that it should be included into teaching.

If such inclusion is done properly with sufficient time and resources then it may deepen students' motivation and understanding for several reasons. First, presenting the theory of rational consumer without any reference to bounded rationality, bounded selfishness and bounded will-power runs the risk to disengage students insofar as they perceive that the theory fails to conform to what they observe in everyday life. Second, exposure to issues such as bounded rationality familiarizes students with common pitfalls in decision making such as ignoring sunk costs, which in turn may reinforce students' understanding of rational decision making. Third, if there is some truth in Frank's et al. (1993, 1996) claim that the study of economics makes people "*marginally less likely to cooperate in social dilemmas*" (Frank et al. 1996, 187), incorporating into teaching behavioral economics analyses of bounded selfishness may mitigate this tendency towards reduced cooperation. Fourth, principles courses can offer a good opportunity to introduce students not only to economic modeling but also to methodological tools such as laboratory experiments. As laboratory experiments have been widely used in behavioral economics research, it would be possible to introduce the two together. Such paired inclusion is likely to enhance learning. In fact, Emerson and Taylor (2007, 18; see also Dicke 2006) find that students who attend courses with experimental sections have a better performance than those in lecture-oriented introductory courses perform. They also find that: "*the experimental approach appears to benefit, or be neutral with respect to, most personality types and learning styles.*" The use of experiments in classroom teaching, pioneered by Charles Holt, is well documented and has already become a relatively widespread teaching tool (see for instance Becker et al. editors, 2006).

This draft of this paper is still very preliminary so a note of warning to the reader is due. Some microeconomics textbooks are still to be reviewed. As the analysis of these books is added to the data, a different picture may emerge as to how much room is dedicated to behavioral economics. As pointed out in the introduction, I could not survey all 30 world top economics departments introductory courses' syllabi, so I could not check whether lecturers produced lecture notes on behavioral economics to complement the textbooks nor whether they discussed behavioral economics in class even when it was included in the textbook.

### References

- Bauer, Martin W. (2000) Classical Content Analysis: A Review in Qualitative Researching with Text, Image and Sound: A Practical Handbook . Edited by Bauer, M.; Gaskell, G. London:Sage.
- Becker, William E. (1997). Teaching economics to undergraduates. *Journal of Economics Literature* , 35: 1347-73.
- Becker, William E. and Greene, William H. (2005) Using the Nobel Laureates in Economics to Teach Quantitative Methods, *Journal of Economic Education*, 36(3): 261-277 reprinted in Becker, William E., Watts, Michael, and Becker, Suzanne R. (editors) (2006). Teaching Economics: More Alternatives to Chalk And Talk , Cheltenham: Elgar.
- Becker, William E., and Watts, Michael (1996). Chalk and talk: A national survey on teaching undergraduates economics. *American Economic Review*, 86: 448-53.
- Becker, William E., Watts, Michael, and Becker, Suzanne R. (editors) (2006). Teaching Economics: More Alternatives to Chalk And Talk , Cheltenham: Elgar.
- Behaviourists at the gates.(2003). *Economist*, 367(8323), 67-67.
- Bernhard, Helen, Fischbacher, Urs, and Fehr, Ernst (2006) Parochial altruism in humans. *Nature* 442, 912 - 915 (24 Aug 2006) Letter
- Camerer, Colin F. (2003). Strategizing in the brain. *Science* 300: 1673-1675 (13 June 2003) Perspectives.
- Camerer, Colin F., & Loewenstein, G. (2004). Behavioral economics: Past, present, future. In C. F.
- Camerer, G. Loewenstein & M. Rabin (Eds.), *Advances in behavioral economics* (pp. 3-51) Roundtable Series in Behavioral Economics; New York.; Russell Sage Foundation;; Princeton and Oxford;; Princeton University Press.

Camerer, Colin F., Loewenstein, G., & Rabin, M., eds. (2004). *Advances in behavioral economics* Roundtable Series in Behavioral Economics; New York:; Russell Sage Foundation;; Princeton and Oxford:; Princeton University Press.

Chatterji, Monojit (2005) Teaching Relevant Economics DEBE 2005 Keynote Speech, available at <  
<http://www.economicsnetwork.ac.uk/debe2005/chatterji.htm>>

Colander, David (2005). What economists teach and what economists do. *Journal of Economic Education*, 36(3), 249-60.

Colander, David (2003). Integrating sex and drugs into the principles course: Market-failures versus failures-of-market outcomes. *Journal of Economic Education*. 34(1): 82-91.

Cowen, Tyler (2007) Behavioral microeconomics blog in Marginal Revolution, 15 March 2007, available at <http://www.marginalrevolution.com/marginalrevolution/2007/03/comments>, (viewed 25.6.2007).

Dickie, Mark (2006) Do Classroom Experiments Increase Learning in Introductory Microeconomics? *Journal of Economic Education* 37(3): 267 -288.

Emerson, Tisha L N and Taylor, Beck A. (2007) Interactions Between Personality Type and the Experimental Methods, *Journal of Economic Education* 38(1): 18-35.

Eriksson, R. (2005). On the ethics of environmental economics as seen from textbooks. *Ecological Economics*, 52(4), 421-35.

Fehr, Ernst (2002). The economics of impatience. *Nature* 415, 269 - 272 (17 Jan 2002) News and Views

Fehr, Ernst and Gärchter, Simon (2003) Sociology (communication arising (reply))The puzzle of human cooperation. *Nature* 421, 912 - 912 (27 Feb 2003) Brief Communications

Fehr, Ernst and Rockenbach Bettina (2003) Detrimental effects of sanctions on human altruism *Nature* 422, 137 - 140 (13 Mar 2003) Article

Frank, Robert H., Gilovich, Thomas and Regan, Dennis (1993). Does Studying Economics Inhibit Cooperation? *Journal of Economic Perspectives*, 7::159-171. Reprinted in *Economics, Ethics, and Public Policy*, Charles K. Wilber, ed., Boulder, Rowman & Littlefield, 1998; also reprinted in *The Economics of Altruism*, Steven Zamagni, ed., Cheltenham: Edward Elgar, 1994. Excerpt reprinted in *Negotiation and Settlement Advocacy*, Charles B. Wiggins, ed., St. Paul, MN: West Publishing, 1997.

Frank, Robert H., Gilovich, Thomas and Regan, Dennis (1996). Do Economists Make Bad Citizens?" with *Journal of Economic Perspectives*,: 187-92.

Gartner, M. (2001). Teaching economics to undergraduates in Europe: Volume, structure, and contents. *Journal of Economic Education*, 32(3), 219-230.

Gateman Robert G. Microeconomics (2006) 11<sup>th</sup> edition, Toronto:Pearson

Harford, Tim (2007) An effort to make economics likeable, *Financial Times* (January 22 2007).

Kagel, John H. and Roth, Alvin, E. editors (1995) *Handbook of Experimental Economics*, Princeton: Princeton University Press.

Kalaitzidakis, P., Mamuneas, T. P., & Stengos, T. (2003). Rankings of academic journals and institutions in economics. *Journal of the European Economic Association*, 1(6), 1346-1366.

Kosfeld, Michael, Heinrichs, Markus, Zak, Paul J., Fischbacher, Urs, and Fehr, Ernst 2005. Oxytocin increases trust in humans. *Nature* 435, 673 - 676 (02 Jun 2005) Letter

Lehrer, Jonah 2006 Driven to Market. *Nature* 443, 502 - 504 (05 Oct 2006)

Mankiw, Greg (2006) Behavioral Economics, Greg Mankiw's blog, 28 June 2006, <<http://gregmankiw.blogspot.com/2006/06/behavioral-economics.html>> (viewed 31 May 2007).

Mullainathan, Sendhil and Thaler, Richard B. (2001). Behavioral Economics in International Encyclopedia of the Social and Behavioral Sciences, Smelser, N. J. and Baltes, P. B. editors, Oxford: Elsevier.

Olin, Dirk (2003) Prospect Theory , June 8, The New York Times.

Pashigian, Peter B and Self, James, K (2007) Teaching Microeconomics in Wonderland *Journal of Economic Education*,38(1):44-57.

Rabin, Matthew. (2002). A perspective on psychology and economics. *European Economic Review*, 46(4-5), 657-685.

Rabin, Matthew(1998). Psychology and economics *Journal of Economic Literature*, 36(1), 11-46.

Roessler, Christian (2004) Rankings (of top economics departments) available at <http://www.econphd.net/rank/rallec.htm> (viewed 25 June 2007).

Rethinking thinking(1999). *Economist*, 353(8150), 63-65.

Thaler, Richard H. and Sunstein, Cass R. (2003) Libertarian Paternalism, *The American Economic Review* 93 (2):175-179.

Tversky, A. and Kahneman, D. (1974) Judgments under uncertainty: Heuristics and Biases, 185(4157):1124-1131.

### **Appendix 1 Microeconomics textbooks used in this research**

- Besanko, David and Braeutigam, Ronald, R. (2005) *Microeconomics*, second edition, John Wiley & Sons, pp. 706.
- Bowles, Samuel (2004) *Microeconomics – Behavior, Institutions and Evolution*, New York:Sage, pp.584.
- Burkett, John P. (2006) *Microeconomics – Optimization, Experiments, and Behavior*, Oxford:Oxford University Press, pp.326.
- Case, Karl. E. and Fair, Ray, C. (2006) *Principles of Microeconomics*, eight edition, Upper Saddle River: Pearson-Prentice Hall, pp.458.
- Cowell, Frank (2006) *Microeconomics Principles and Analysis*, Oxford: Oxford University Press, pp.637.
- Frank, Robert H. (2006) *Microeconomics and Behavior*, sixth edition (international edition), New York:McGraw Hill, pp.692.
- Himmelweit, Susan, Simonetti, Roberto and Trigg, Andrew (2001) *Microeconomics – Neoclassical and Institutional Perspectives on Economics Behavior*, London:Thomson, pp. 580.
- Krugman, Paul, Wells, Robin, and Graddy Kathryn (2007) *Economics – European Edition*, New York:Worth, pp.864.
- Mankiw, Gregory N. and Taylor, Mark P. (2006) *Economics*, London:Thompson, pp.830.
- McConnel, Campbell R. and Brue, Stanley L. (2005) *Microeconomics: Principles, Problems, and Policies*, Boston:McGraw-Hill, pp. 488.
- McEachern, William A. (2007) *Microeconomics: A Contemporary Introduction*, Mason: Thompson-South Western, pp. 406.
- O’Sullivan Arthur, Sheffrin, Steven M., Perez, Stephen, J. (2007 ) *Microeconomics Principles, Applications, and Tools*, fifth edition, Upper Saddle River: Pearson-Prentice Hall, pp. 448.
- Parkin, Michael (2005) *Microeconomics* 6<sup>th</sup> edition, Pearson Education
- Stiglitz, Joseph E. and Walsh, Carl E. (2006) *Principles of microeconomics*, fourth edition, New York: W.W. Norton , pp.495.
- Taylor, John B. (2007) *Principles of Microeconomics*, fifth edition, Boston: Houghton Mifflin, pp.517.
- Varian, Hal R. (2006) *Intermediate Microeconomics: A Modern Approach*, seventh edition (international student edition), New York: W. W. Norton and company, pp.715.

## Appendix 2 Ranking of Economics Departments (Roessler 2004)<sup>10</sup>

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1	Harvard U	USA
2	U Chicago	USA
3	Massachusetts Institute of Technology (MIT)	USA
4	U California - Berkeley	USA
5	Princeton U	USA
6	Stanford U	USA
7	Northwestern U	USA
8	U Pennsylvania	USA
9	Yale U	USA
10	New York U (NYU)	USA
11	U California - Los Angeles (UCLA)	USA
12	London School of Economics (LSE)	UK
13	Columbia U	USA
14	U Wisconsin - Madison	USA
15	Cornell U	USA
16	U Michigan - Ann Arbor	USA
17	U Maryland - College Park	USA
18	U Toulouse I (Sciences Sociales)	France
19	U Texas - Austin	USA
20	U British Columbia	Canada
21	U California - San Diego	USA
22	U Rochester	USA
23	Ohio State U	USA
24	Tilburg U	Netherlands
25	U Illinois - Urbana-Champaign	USA
26	Boston U	USA
27	Brown U	USA
28	U California - Davis	USA
29	U Minnesota	USA
30	Tel Aviv U	Israel

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<sup>10</sup> Methodological notes are available at <http://www.econphd.net/rankings.htm> (viewed 29 May 2007) and the full ranking is available at <http://www.econphd.net/rank/rallec.htm> (viewed 29 May 2007)

### Appendix 3 Adopted textbooks at top economics departments

Rankings as reported by Christian Roessler 2004 at <http://www.econphd.net/rank/rallec.htm> (viewed 28 May 2007). The textbooks are ordered by alphabetical order of first writer's surname.

#### 1. Cowell, Frank **Microeconomics: Principles and Analysis (2005)**

London School of Economics [Roessler 2004, ranking 12] **EC202 Microeconomics**, Frank Cowell, (academic year 2006-2006 <http://econ.lse.ac.uk/courses/ec202/> seka <http://darp.lse.ac.uk/Frankweb/courses/EC202/> <http://darp.lse.ac.uk/pdf/EC202/EC202LecList06.pdf> (viewed 28.5.2007)

#### 2. Frank, Robert H., and Bernanke **Principles of Economics** Irwin-McGraw and Hill

UC Davis [Roessler 2004, ranking 28]  
MG202a Microeconomics, fall 2001

<<http://students.gsm.ucdavis.edu/Courses/2001-2002/Fall/mgt202a.pdf>> (viewed 28.5.2006)

U. of Minnesota [Roessler 2004, ranking 29] APEC1101 Principles of Microeconomics, Steven J Taff, spring 2007

<<http://www.apec.umn.edu/faculty/sjtaff/readings/apec1101/APEC1101%20Spring%202007%20syllabus.pdf>> (viewed 28.5.2007) (2005 3<sup>rd</sup> edition )

#### 3. Frank Robert H. **Microeconomics and Behavior, (5th edition), McGraw-Hill (2003)**

London School of Economics [Roessler 2004, ranking 12] EC101: Introductory Microeconomics  
Dr Ronny Razin and Dr Oriana Bandiera, Summer 2007 (required reading)

<http://www.lse.ac.uk/collections/summerSchool/brochure/economics/EC101.htm> (viewed 5.6.2007)

#### 4. Gateman Robert G. **Microeconomics (2006) 11<sup>th</sup> edition, Toronto:Pearson, (+ Gateman Micromanual 2006)**

University of British Columbia [Roessler 2004, ranking 20] Microeconomics 101 – Introductory Microeconomics, Robert G. Gateman, September 2006,

<http://www.econ.ubc.ca/gateman/web/pages/AOL/ol101.pdf> (viewed 28.5.2007)

#### 5. Krugman, Paul & Wells, Robin **Microeconomics**

University of Wisconsin – Madison [Roessler 2004, ranking 14] **Economics 101 Principles of Economics**, Johanna Hertel, spring 2007 <<http://www.ssc.wisc.edu/~jhertel/syllabus101.pdf>> (viewed 28.5.2007) (2005 edition)

UCLA [Roessler 2004, ranking 11] Principles of Economics – Microeconomics, Anne Bresnock, spring 2005 <<http://xlei.bol.ucla.edu/econ1.pdf>> (viewed 28.5.2007)

## 6. Mankiw, N. Gregory. *Principles of Economics*. (2006)

Brown University [Roessler 2004, ranking 27]  
Economics 11 Principles of Economics, Roberto Serrano, summer 2005,  
<<http://coe.brown.edu/documents/EC11-Serrano.pdf>> (viewed 28.5.2007)

Columbia University [Roessler 2004, ranking 13] **W1105y Principles of Economics**, Padma Desai, Spring 2005, <http://www.columbia.edu/~pd5/1105.pdf> (viewed 28.5.2007)

Cornell University [Roessler 2004, ranking 15]  
**ECON101-2 Introductory Microeconomics**, Richard Burkhauser, fall 2006  
[http://www.people.cornell.edu/pages/rvb1/Burkhauser\\_Fall06\\_Syllabus\\_Econ101.pdf](http://www.people.cornell.edu/pages/rvb1/Burkhauser_Fall06_Syllabus_Econ101.pdf)

Harvard University [Roessler 2004, ranking 1]  
**Social Analysis 10 : Principles of Economics**  
<<http://my.harvard.edu/icb/icb.do?keyword=k9774>> (viewed 28.5.2007)  
Full Year 2006-2007 N. Gregory Mankiw, and members of the Economics Department.

Northwestern U [Roessler 2004, ranking 7] **ECON Economics 202-0: Introduction to Microeconomics**, Martin Zelder, Spring 2007, [http://aquavite.northwestern.edu/cdesc/course-desc.cgi?school\\_id=400&dept\\_id=417&course\\_id=152&quarter=SP07](http://aquavite.northwestern.edu/cdesc/course-desc.cgi?school_id=400&dept_id=417&course_id=152&quarter=SP07) (viewed 29.5.2007) (4<sup>th</sup> edition)

Ohio State University [Roessler 2004, ranking 23]  
**ECON H-200 Principles of Microeconomics**, James Peck, autumn 2006,  
<<http://www.econ.ohio-state.edu/jpeck/H200/SYLLH200.F06.pdf>> (viewed 28.5.2007) (4<sup>th</sup> edition).

University of Maryland – College Park [Roessler 2004, ranking 17] **ECON200 Principles of Economics**, Spring 2007, Daniel R. Vincent <http://www.econ.umd.edu/~vincent/econ200syl.pdf> > (viewed 28.5.2007) (4<sup>th</sup> edition)

U Michigan Ann Arbor [Roessler 2004, ranking 16] **102 Principles of Economics 2 Summer 2007** <http://www.lsa.umich.edu/econ/textbook/textbooks.xml> (viewed 29.5.2007)

U Illinois – Urbana-Champaign [Roessler 2004, ranking 25] **ECON102 Microeconomic Principles** (year) 2000, Jane H. Leuthold <http://www.business.uiuc.edu/econ102Sp2000/syllabus.htm> (viewed 29.5.2007)

## 7 Parkin "Microeconomics", 7th edition

University of Pennsylvania [Roessler 2004, ranking 8] **Economics 1 , economics 2 (introductory economics)**, spring 2007 <<http://www.econ.upenn.edu/Undergraduate/Econ1&2GralInfo.htm>> (viewed 28.5.2007)

U of Chicago [Roessler 2004, ranking 2] **Economics 19800 Introduction to Microeconomics**, Allen T. Sanderson, Autumn Quarter 2006, [http://home.uchicago.edu/~arsx/Econ\\_19800\\_autumn\\_06.pdf](http://home.uchicago.edu/~arsx/Econ_19800_autumn_06.pdf) (viewed 28.5.2007)

**8 Pindyck, Robert and Rubinfeld, Danilel Microeconomics 2005 (sixth edition) Prentice Hall**

Yale U [Roessler 2004, ranking 9] Econ115b Introductory Economics (Micro), Geroge J Hall, Spring 2006, [http://www.econ.yale.edu/~gjh9/econ115b/econ115b\\_syllabus.pdf](http://www.econ.yale.edu/~gjh9/econ115b/econ115b_syllabus.pdf) (viewed 29.5.2007)

**9 Taylor Principles of Microeconomics 5th (4th also OK for section 101) Houghton Mifflin**

U Michigan Ann Arbor [Roessler 2004, ranking 16] **101 Principles of Economics I**, , Spring 2007 <http://www.lsa.umich.edu/econ/textbook/textbooks.xml> (viewed 29.5.2007)

**10 Varian, Hal *Intermediate Microeconomics* 7<sup>th</sup> Edition, Norton,**

Harvard University [Roessler 2004, ranking 1] **Economics 1010a : Microeconomic Theory, fall 2006** <http://my.harvard.edu/icb/icb.do?keyword=k8234&pageid=icb.page31209> (viewed 28.5.2007)

London School of Economics [Roessler 2004, ranking 12] **EC101: Introductory Microeconomics** Dr Ronny Razin and Dr Oriana Bandiera, Summer 2007 (recommended reading), <http://www.lse.ac.uk/collections/summerSchool/brochure/economics/EC101.htm> (viewed 5.6.2007)